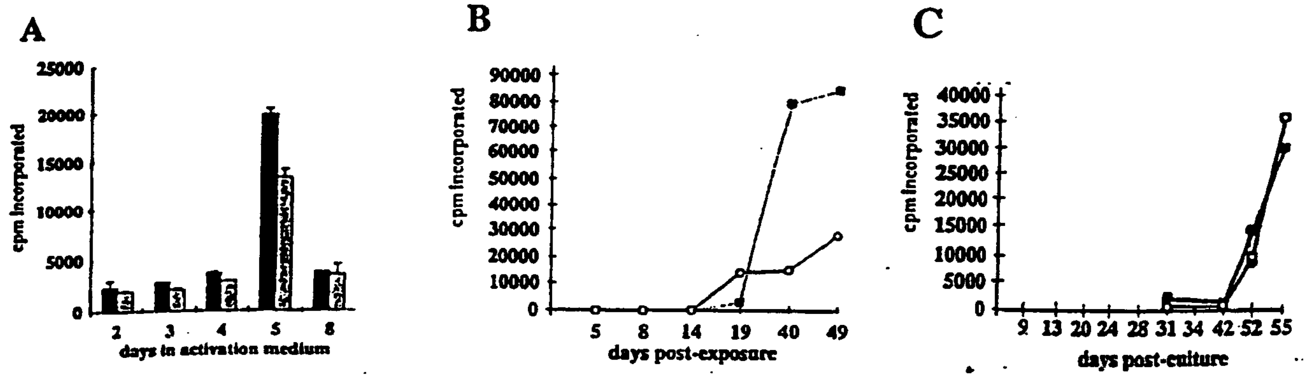


Fig 1

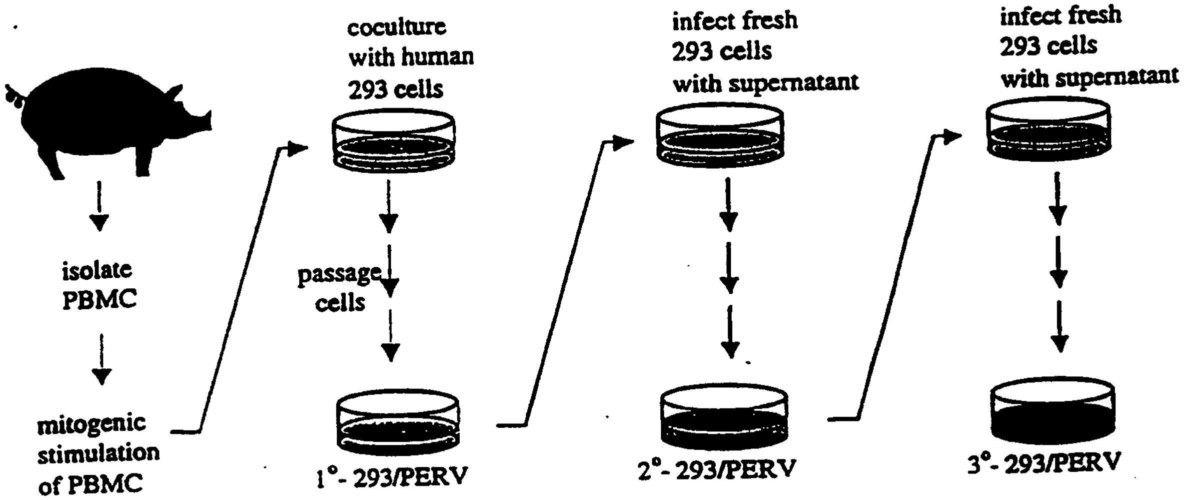


Fig 2

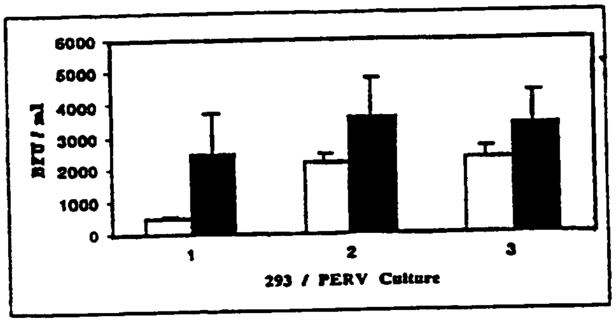


Fig 3

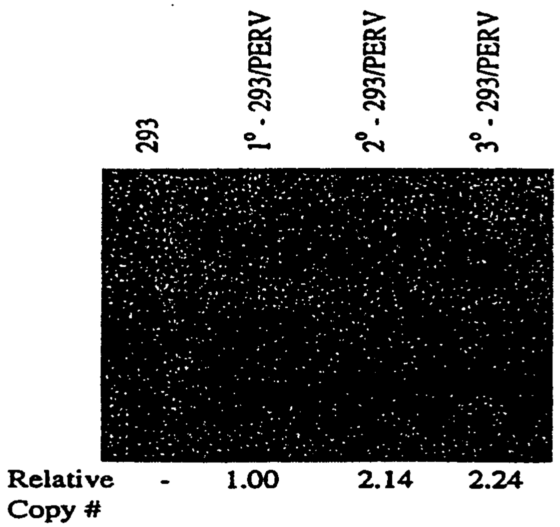

293
1° - 293/PERV
2° - 293/PERV
3° - 293/PERV
Relative Copy #
-
1.00
2.14
2.24

Fig 4

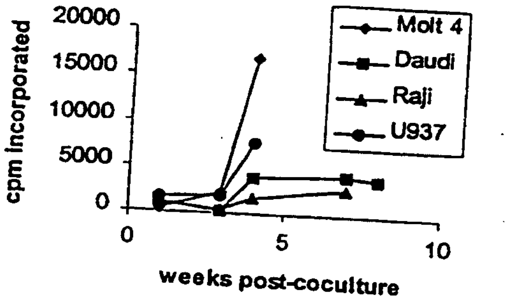
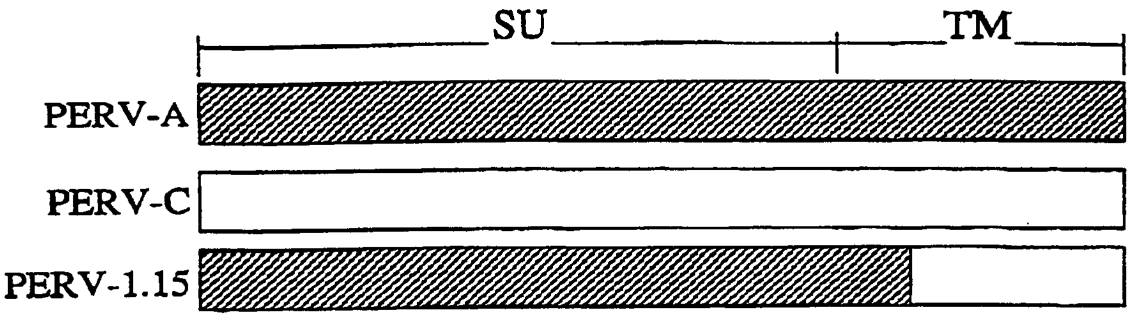

cpm incorporated
20000
15000
10000
5000
0
0
5
10
weeks post-coculture
Molt 4
Daudi
Raji
U937

Fig 5



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PERV-1.15  MHPTLSRRHL PIRGGKPKRL KIPLSFASIA WFLTLSITPQ VNGKRLVDSP  50
PERV-A     .......... .......... .......... .......... ..........  50
PERV-C     .....N.... .......... .......... ........S. T..M.IG..L  50

PERV-1.15  NSHKPLSLTW LLTDSGTGIN INSTQGEAPL GTWWPELYVC LRSVIPGLND 100
PERV-A     .......... .......... .......... .......... .......... 100
PERV-C     .......... .I........ ..N....... .....D.... ......S.TS 100

PERV-1.15  QATPPDVLRA YGFYVCPGPP NNEEYCGNPQ DFFCKQWSCV TSNDGNWKWP 150
PERV-A     .......... .......... .......... .........I .......... 150
PERV-C     ___....I.H H......... ..GKH....R .......N.. .....Y.... 147

PERV-1.15  VSQQDRVSYS FVNNPTSYNQ FNYGHGRWKD WQQRVQKDVR NKQISCHSLD 200
PERV-A     .......... .......... .......... .......... .......... 200
PERV-C     T.......F. Y..TY..SG. ..._______ _____LTWI. TGSPK.SPS. 185

PERV-1.15  LDYLKISFTE KGKQENIQKW VNGMSWGIVY YRGSGRKKGS VLTIRLRIET 250
PERV-A     .......... .......... ...I...... .G........ .......... 250
PERV-C     .......... ........L. ........M. .G...KQP.. I.....K.N_ 234

PERV-1.15  QMEPPVAIGP NKGLAEQGPP IQEQRPSPNP SDYNTTSGSV PTEPNITIKT 300
PERV-A     .......... .......... .......... .......... .......... 300
PERV-C     .L...M.... .TV.TG.R.. T.____G.G. ._S.I....D ...S.S.T.M 279

PERV-1.15  GAKLFNLIQG AFQALNSTTP EATSSCWLCL ASGPPYYEGM ARGGKFNVTK 350
PERV-A     .....S.... .......... .......... .......... .......... 350
PERV-C     .....S.... .......... .......... .......... ..R....... 329

PERV-1.15  EHRDQCTWGS QNKLTLTEVS GKGTCIGMVP PSHQHLCNHT EAFNRTSESQ 400
PERV-A     .......... .......... .......... .......... .......... 400
PERV-C     .......... .......... .......K.. .......... ....Q..... 379

PERV-1.15  YLVPGYDRWW ACNTGLTPCV STLVFNQTKD FCVMVQIVPR VYYYPEKAVL 450
PERV-A     .......... .......... .......... .......... .......... 450
PERV-C     .......... .......... .......... ..I....... ........I. 429

PERV-1.15  DEYDYRYNRP KREPISLTLA VMLGLGVAAG VGTGTAALIT GPQQLEKGLS 500
PERV-A     .......... .......... .......... .......... .......... 500
PERV-C     ......NH.Q .......... .......... ........V. .......T.. 479

PERV-1.15  NLHRIVTENL QALEKSVSNL EESLTSLSEV VLQNRRGLDL LFLKEGGLCV 550
PERV-A     ........D. .......... .......... .......... .......... 550
PERV-C     ........D. .......... .......... .......... .......... 529

PERV-1.15  ALKEECCFYV DHSGAIRDSM NKLRERLEKR RREKETTQGW FEGWFNRSPW 600
PERV-A     .......... .......... S.......R. ...R.AD... .......... 600
PERV-C     .......... .......... .......... .......... ........L. 579

PERV-1.15  LATLLSALTG PLIVLLLLLT VGPCIINKLI AFIREHISAV QIMVLRQQYQ 650
PERV-A     MT........ ..V....... ....L..RFV ..V...V... .......... 650
PERV-C     .......... .......... .......... .......... .......... 629

PERV-1.15  SPSSREAGR                                              659
PERV-A     GLL.QGETDL                                             660
PERV-C     .........                                              638
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Fig. 6

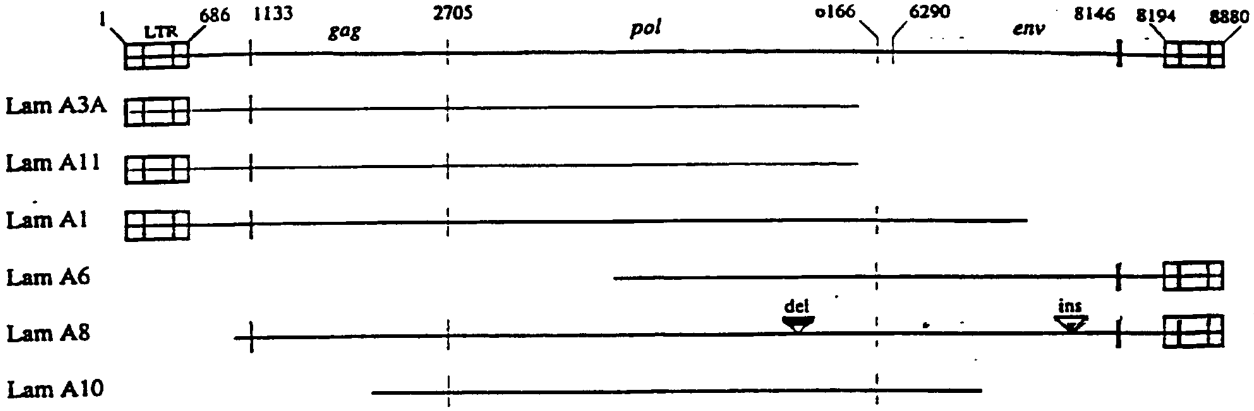
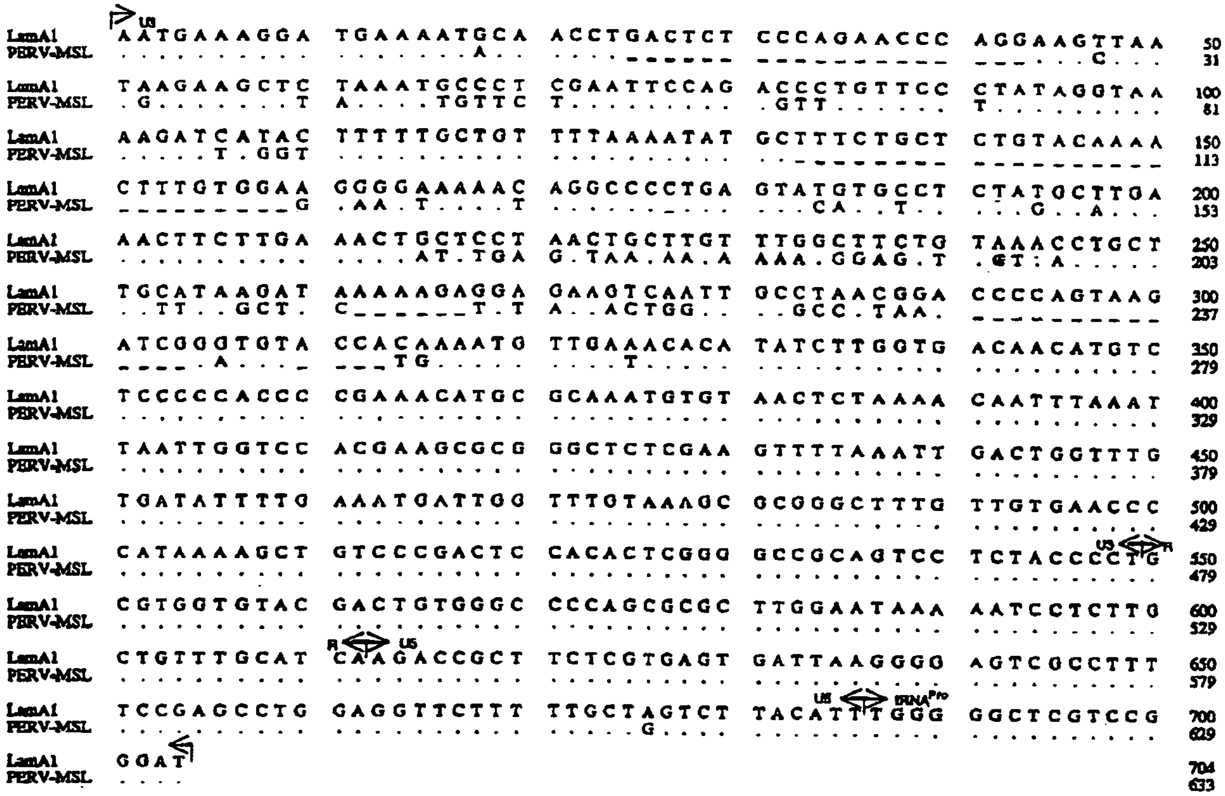

1
LTR
686
1133
gag
2705
pol
6166
6290
env
8146
8194
8880
Lam A3A
Lam A11
Lam A1
Lam A6
Lam A8
del
ins
Lam A10

Fig. 7



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LamA1     AATGAAAGGA TGAAAATGCA ACCTGACTCT CCCAGAACCC AGGAAGTTAA   50
PERV-MSL  .......... ........A. ....------ ---------- ---...C...   31

LamA1     TAAGAAGCTC TAAATGCCCT CGAATTCCAG ACCCTGTTCC CTATAGGTAA  100
PERV-MSL  .G.......T A....TGTTC T......... .GTT...... T.........   81

LamA1     AAGATCATAC TTTTTGCTGT TTTAAAATAT GCTTTCTGCT CTGTACAAAA  150
PERV-MSL  .....T.GGT .......... .......... ..-------- ----------  113

LamA1     CTTTGTGGAA GGGGAAAAAC AGGCCCCTGA GTATGTGCCT CTATGCTTGA  200
PERV-MSL  ---------G .AA.T....T .......-.. ...CA..T.. ...G..A...  153

LamA1     AACTTCTTGA AACTGCTCCT AACTGCTTGT TTGGCTTCTG TAAACCTGCT  250
PERV-MSL  .......... ....AT.TGA G.TAA.AA.A AAA.GGAG.T .GT.A.....  203

LamA1     TGCATAAGAT AAAAAGAGGA GAAGTCAATT GCCTAACGGA CCCCAGTAAG  300
PERV-MSL  ..TT..GCT. C------T.T A..ACTGG.. ..GCC.TAA. ----------  237

LamA1     ATCGGGTGTA CCACAAAATG TTGAAACACA TATCTTGGTG ACAACATGTC  350
PERV-MSL  ----.A...- ---TG..... ....T..... .......... ..........  279

LamA1     TCCCCCACCC CGAAACATGC GCAAATGTGT AACTCTAAAA CAATTTAAAT  400
PERV-MSL  .......... .......... .......... .......... ..........  329

LamA1     TAATTGGTCC ACGAAGCGCG GGCTCTCGAA GTTTTAAATT GACTGGTTTG  450
PERV-MSL  .......... .......... .......... .......... ..........  379

LamA1     TGATATTTTG AAATGATTGG TTTGTAAAGC GCGGGCTTTG TTGTGAACCC  500
PERV-MSL  .......... .......... .......... .......... ..........  429

LamA1     CATAAAAGCT GTCCCGACTC CACACTCGGG GCCGCAGTCC TCTACCCCTG  550
PERV-MSL  .......... .......... .......... .......... ..........  479

LamA1     CGTGGTGTAC GACTGTGGGC CCCAGCGCGC TTGGAATAAA AATCCTCTTG  600
PERV-MSL  .......... .......... .......... .......... ..........  529

LamA1     CTGTTTGCAT CAAGACCGCT TCTCGTGAGT GATTAAGGGG AGTCGCCTTT  650
PERV-MSL  .......... .......... .......... .......... ..........  579

LamA1     TCCGAGCCTG GAGGTTCTTT TTGCTAGTCT TACATTTGGG GGCTCGTCCG  700
PERV-MSL  .......... .......... .....G.... .......... ..........  629

LamA1     GGAT                                                    704
PERV-MSL  ....                                                    633
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Fig. 8

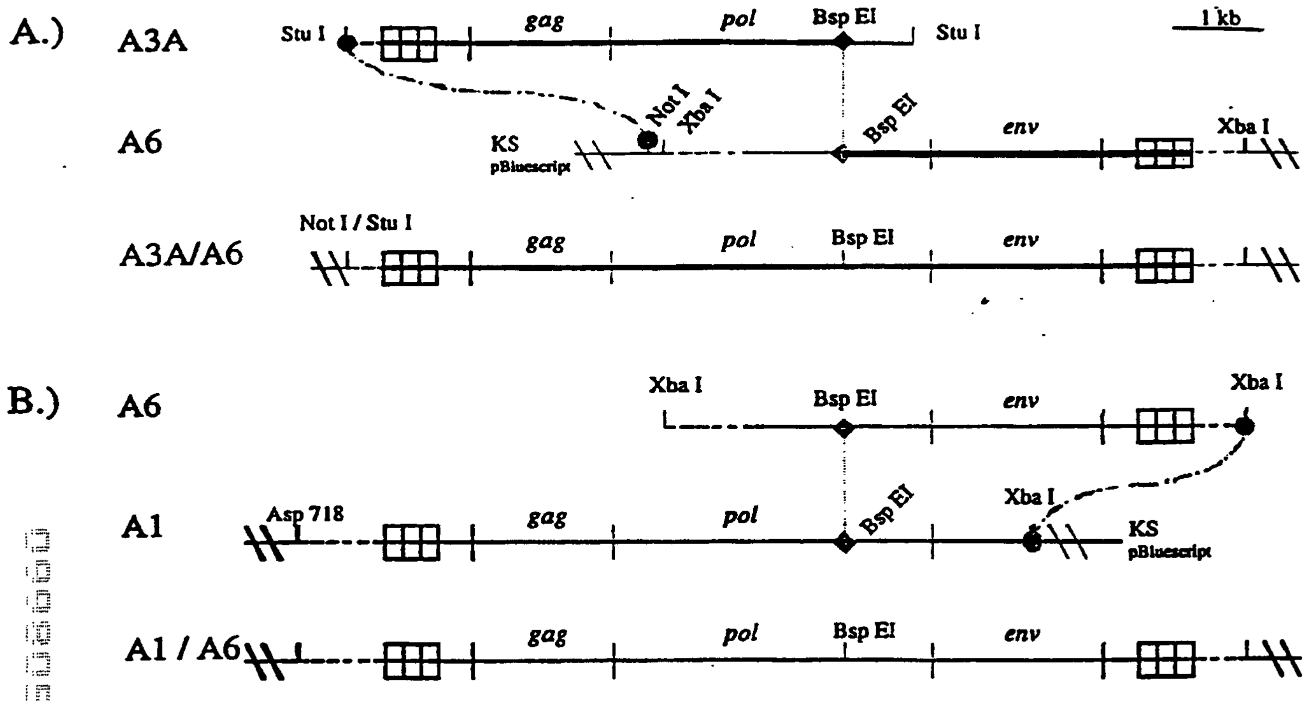
A.)
A3A
Stu I
gag
pol
Bsp EI
Stu I
1 kb
A6
Not I
Xba I
Bsp EI
KS
pBluescript
env
Xba I
A3A/A6
Not I / Stu I
gag
pol
Bsp EI
env
B.)
A6
Xba I
Bsp EI
env
Xba I
A1
Asp 718
gag
pol
Bsp EI
Xba I
KS
pBluescript
A1 / A6
gag
pol
Bsp EI
env

Fig 9

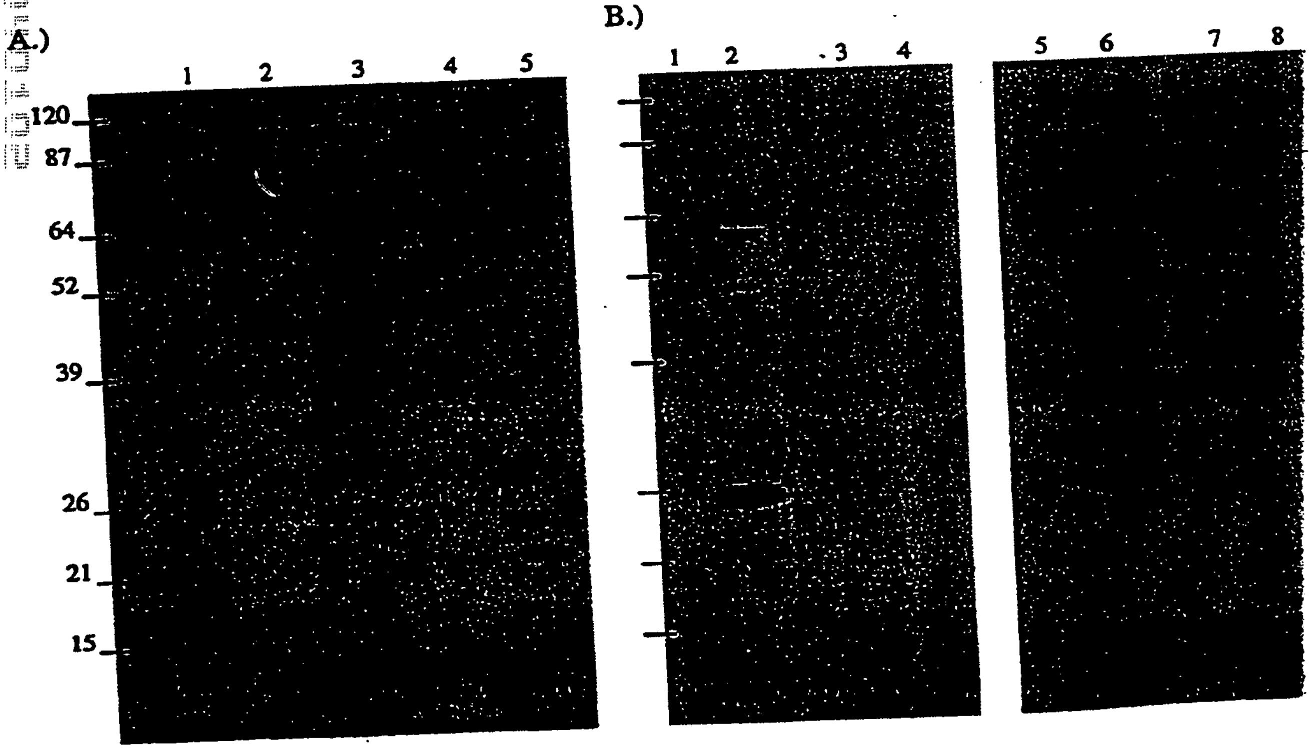
A.)
1
2
3
4
5
120
87
64
52
39
26
21
15
B.)
1
2
3
4
5
6
7
8

Fig. 10

REPLICATION CO ETENT VECTOR

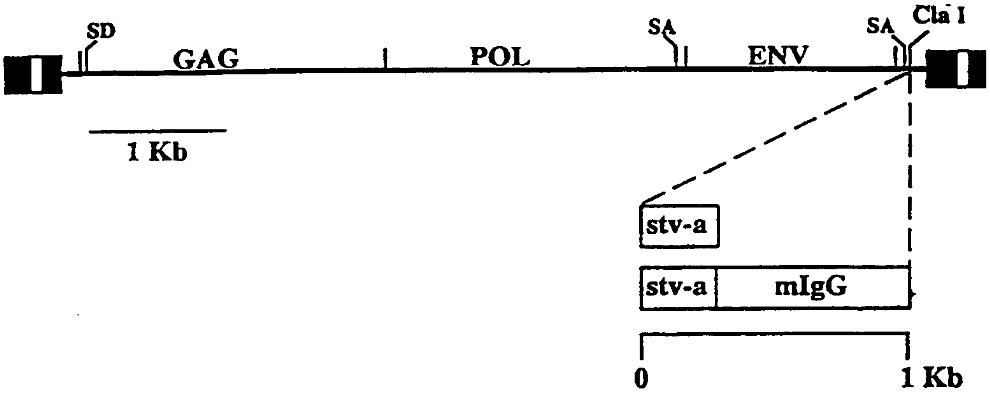

Figure 11

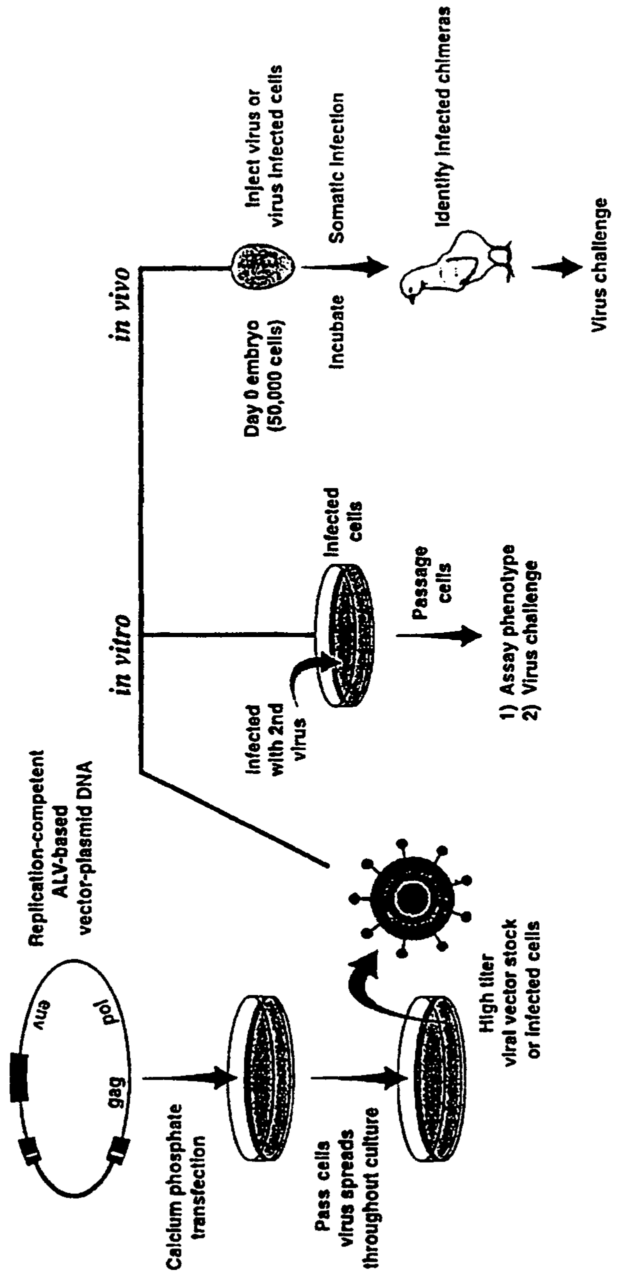
Replication-competent
ALV-based
vector-plasmid DNA
env
pol
gag
Calcium phosphate
transfection
Pass cells
virus spreads
throughout culture
High titer
viral vector stock
or infected cells
in vitro
Infected
with 2nd
virus
Infected
cells
Passage
cells
1) Assay phenotype
2) Virus challenge
in vivo
Day 0 embryo
(50,000 cells)
Inject virus or
virus infected cells
Incubate
Somatic infection
Identify infected chimeras
Virus challenge

Figure 12

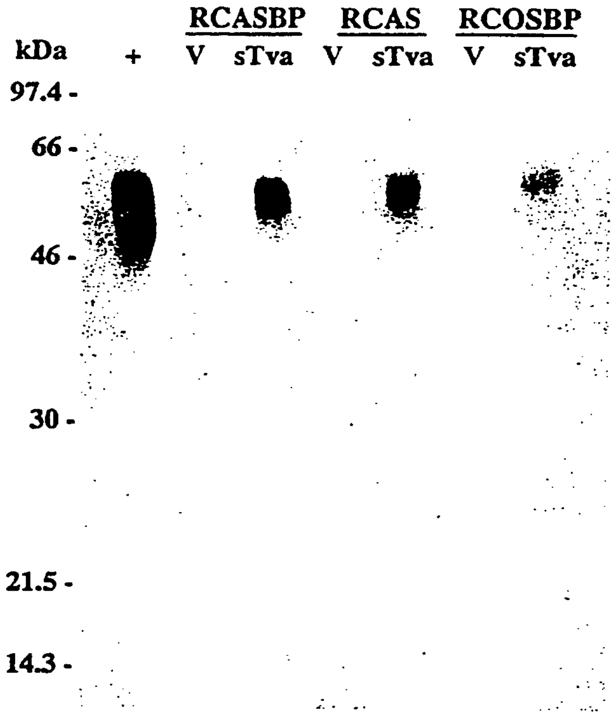

Figure 13

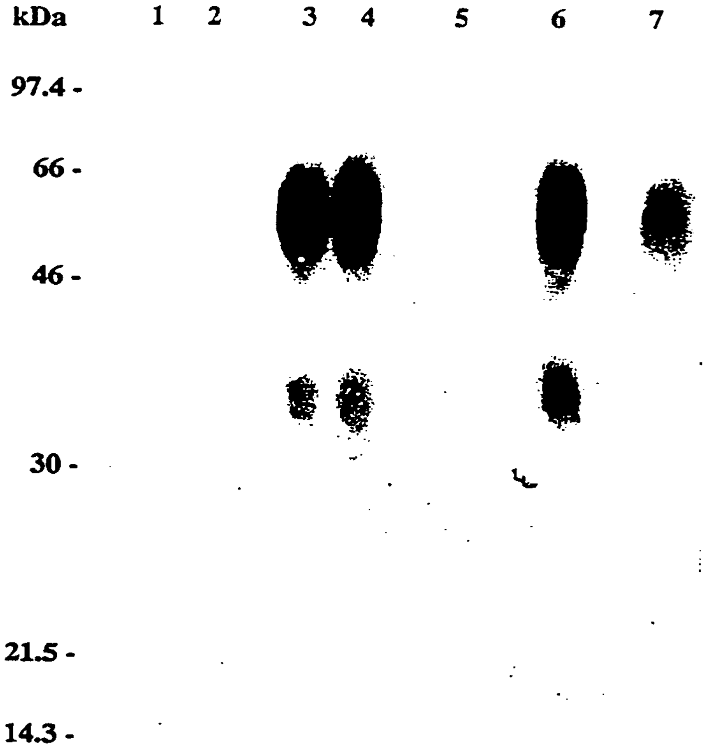

Figure 6a

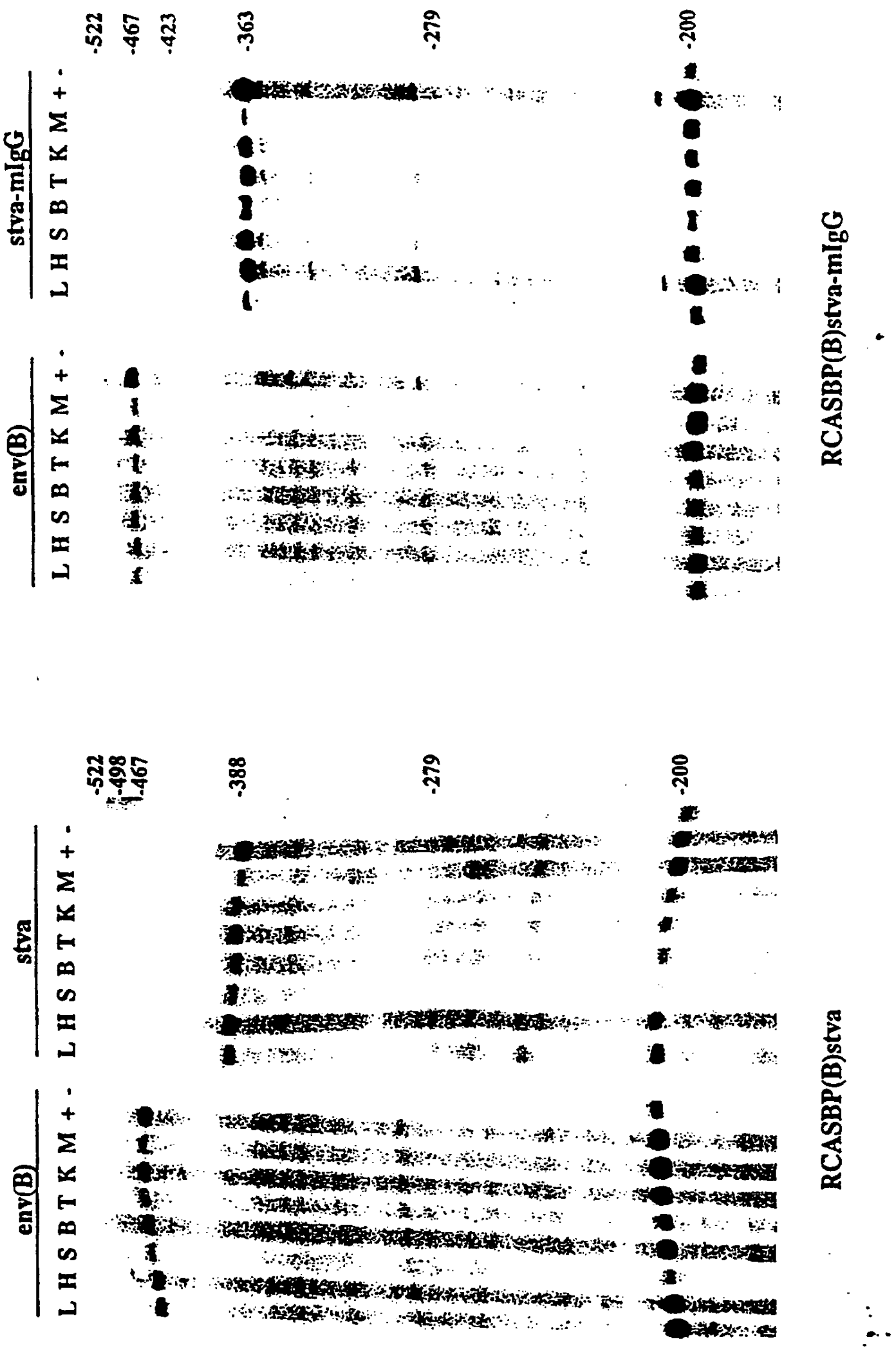
env(B)
L H S B T K M + -
stva-mIgG
L H S B T K M + -
-522
-467
-423
-363
-279
-200
RCASBP(B)stva-mIgG
env(B)
L H S B T K M + -
stva
L H S B T K M + -
-522
-498
-467
-388
-279
-200
RCASBP(B)stva

Figure 15

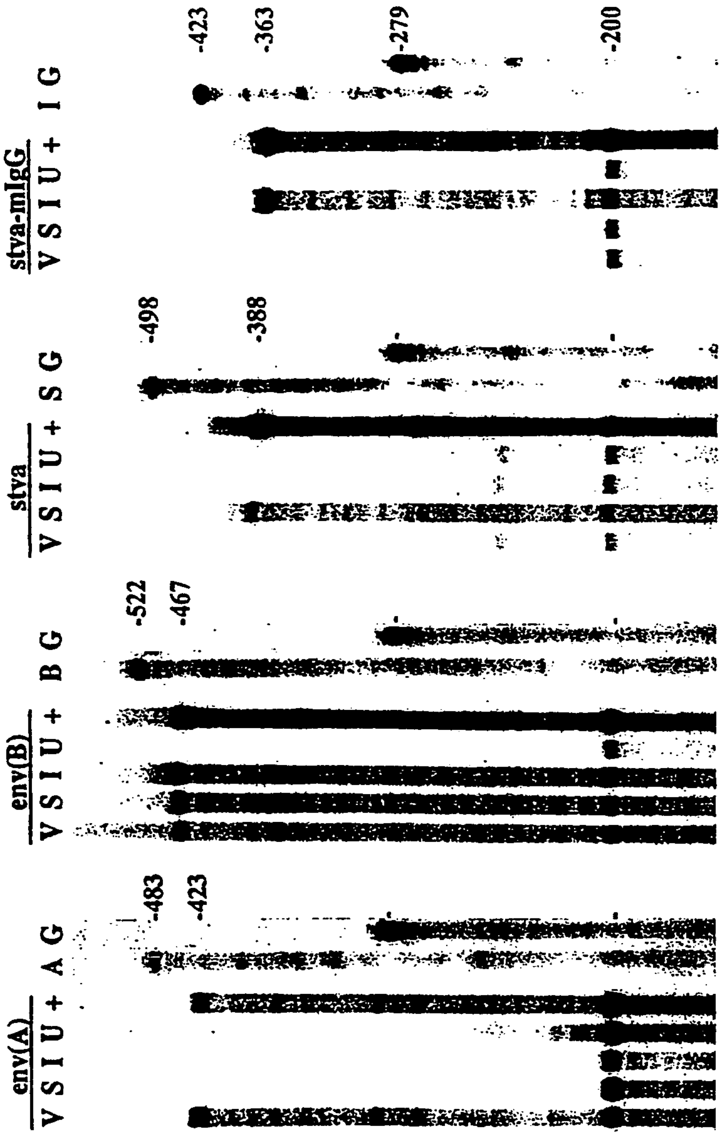
env(A)
V S I U + A G
-483
-423
env(B)
V S I U + B G
-522
-467
stva
V S I U + S G
-498
-388
stva-mIgG
V S I U + I G
-423
-363
-279
-200

Figure 16

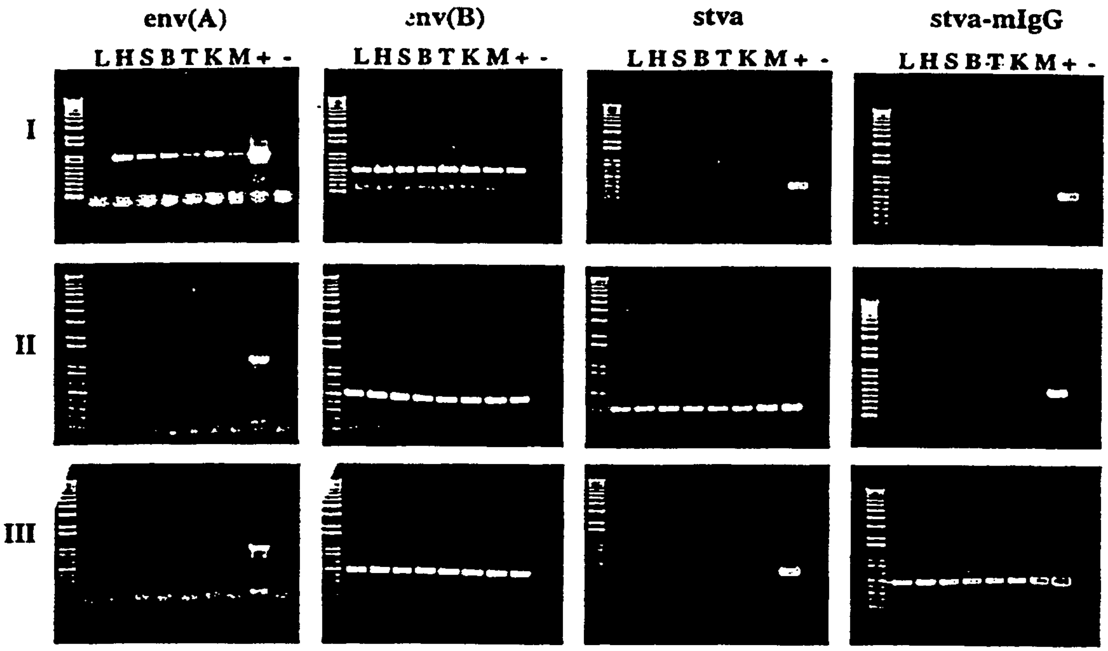
env(A)
env(B)
stva
stva-mIgG
L H S B T K M + -
L H S B T K M + -
L H S B T K M + -
L H S B T K M + -
I
II
III

FIGURE 17

Figure 18

PERV 1.15

ATGCATCCCACGTTAAGCCGGCGCCACCTCCCGATTCGGGGTGGAAAGCCGAAAAGACTGAAAATCCCCTTAAGCTTCGC
CTCCATCGCGTGGTTCCTTACTCTGTCAATAACTCCTCAAGTTAATGGTAAACGCCTTGTGGACAGCCCGAACTCCCATA
AACCCTTATCTCTCACCTGGTTACTTACTGACTCCGGTACAGGTATTAATATTAACAGCACTCAAGGGGAGGCTCCCTTG
GGGACCTGGTGGCCTGAATTATATGTCTGCCTTCGATCAGTAATCCCTGGTCTCAATGACCAGGCCACACCCCCCGATGT
ACTCCGTGCTTACGGGTTTTACGTTTGCCCAGGGCCCCCAAATAATGAAGAATATTGTGGAAATCCTCAGGATTTCTTTT
GCAAGCAATGGAGCTGCGTAACTTCTAATGATGGGAATTGGAAATGGCCAGTCTCTCAGCAAGACAGAGTAAGTTACTCT
TTTGTTAACAATCCTACCAGTTATAATCAATTTAATTATGGCCATGGGAGATGGAAAGATTGGCAACAGCGGGTACAAAA
AGATGTACGAAATAAGCAAATAAGCTGTCATTCGTTAGACCTAGATTACTTAAAAATAAGTTTCACTGAAAAAGGAAAAC
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AGGACCTCCAATCCAAGAACAGAGGCCATCTCCTAACCCCTCTGATTACAATACAACCTCTGGATCAGTCCCCACTGAGC
CTAACATCACTATTAAAACAGGGGCGAAACTTTTTAACCTCATCCAGGGAGCTTTTCAAGCTCTTAACTCCACGACTCCA
GAGGCTACCTCTTCTTGTTGGCTTTGCTTAGCTTCGGGCCCACCTTACTATGAGGGAATGGCTAGAGGAGGGAAATTCAA
TGTGACAAAGGAACATAGAGACCAATGTACATGGGGATCCCAAAATAAGCTTACCCTTACTGAGGTTTCTGGAAAAGGCA
CCTGCATAGGGATGGTTCCCCCATCCCACCAACACCTTTGTAACCACACTGAAGCCTTTAATCGAACCTCTGAGAGTCAG
TATCTGGTACCTGGTTATGACAGGTGGTGGGCATGTAATACTGGATTAACCCCTTGTGTTTCCACCTTGGTTTTCAACCA
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GTGGGAACAGGAACGGCTGCCCTAATCACAGGACCGCAACAGCTGGAGAAAGGACTTAGTAACCTACATCGAATTGTAAC
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GATCATTCAGGGGCCATCAGAGACTCCATGAACAAGCTTAGAGAAAGGTTGGAGAAGCGTCGAAGGGAAAAGGAAACTAC
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TCCTCCTCCTGTTACTCACAGTTGGGCCATGTATTATTAACAAGTTAATTGCCTTCATTAGAGAACGAATAAGTGCAGTC
CAGATCATGGTACTTAGACAACAGTACCAAAGCCCGTCTAGCAGAGAAGCTGGCCGCTAG

**LamA1**

TACTTCTTGGGGAAGACCCTGGGCTGCTAACTGGGTCTTGGCTGGTCCTAGTGAAAGGATGAAAATGCAACCTGACTCTC
CCAGAACCCAGGAAGTTAATAAGAAGCTCTAAATAATGAAAGGATGAAAATGCAACCTGACTCTCCCAGAACCCAGGAAG
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GGAGGTGGGGAGAGCCAGGGACGCCTGGTGGTCTCCTTCTGTCGGTCAGAGGACCGAGTTCTGTTGTTGAAGCGAAAGCT
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GGGACTACAACACGGCTGAAGGTAGGGAGAGCTTGAAAATCTATCGCCAGGCTCTGGTGGCGGGTCTCCGGGGCGCCTCA
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TCCTGGGTGATGGGTGCCACAGGGCAACAACAGTATCCATGGACTACCCGAAGAACAGTTGACTTGGGAGTGGGACGGGT
AACCCACTCGTTTCTGGTCATACCTGAGTGCCCAGCACCCCTCTTAGGTAGAGACTTATTGACCAAGATGGGAGCACAAA
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CCTGTCCAATCTCCCTGGAATACTCCCCTGCTACCGGTTAGAAAGCCTGGGACTAATGACTATCGACCAGTACAGGACTT
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GACCTAGGCTACAGAGCCTCTGCTAAGAAGGCCCAGATTTGCAGGAGAGAGGTAACATACTTGGGGTACAGTTTGCGGGA
CGGGCAGCGATGGCTGACGGAGGCACGGAAGAAAACTGTAGTCCAGATACCGGCCCCAACCACAGCCAAACAAGTGAGAG
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